SEQUENCE LISTING

<110> Biogen Idec MA Inc.
     Prentice, Holly

<120> HIGH EXPRESSION LOCUS VECTOR BASED ON
     FERRITIN HEAVY CHAIN GENE LOCUS

<130> 2159.058PC01/EKS/LMB

·<140> PCT/US2003/033433
<141> 2003-10-22

<150> US 60/421,252
<151> 2002-10-24

<160> 41

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 563
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (346)...(459)

<400> 1
agctcagaga cccaagagcc gcctcacaat cacacaggct cctccccgcc cacgcactgc   60
tggcttgggc aacacgccta caggaagagg cggggctggg cggcccaccg cgctgattgg   120
ccggagcgcg cctgacgcag gatcccgcta taaagtgcgg cccgctggtc cctacgccag   180
acgttctcgc ccagagtcgc cgcggtttcc tgcttcaaca gtgcttgaac ggaacccggt   240
gctcgacccc tccgaccccc gtccggccgc tttgagcctg agccctttgc aacttcgtcg   300
ctccgccgct ccagcgtcgc ctccgcgcct cgtccagccg ccatc atg acc acc gcg   357
                                                   Met Thr Thr Ala
                                                    1

tct ccc tcg caa gtg cgc cag aac tac cac cag gac tcg gag gct gcc   405
Ser Pro Ser Gln Val Arg Gln Asn Tyr His Gln Asp Ser Glu Ala Ala
 5   10   15   20

atc aac cgc cag atc aac ctg gag ttg tat gcc tcc tac gtc tat ctg   453
Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser Tyr Val Tyr Leu
                25   30   35

tcc atg gtgagtgcgg cctggccttt gcgggggcgg aaagagggtg cggcctggcc   509
Ser Met

tcccttgggc cacttggtga gctggcggag ggtgggttgg ggcgtggctg cggg   563

<210> 2
<211> 38
<212> PRT
<213> Rattus norvegicus

<400> 2

```
Met Thr Thr Ala Ser Pro Ser Gln Val Arg Gln Asn Tyr His Gln Asp
1               5                   10                  15
Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser
            20                  25                  30
Tyr Val Tyr Leu Ser Met
        35
```

<210> 3
<211> 563
<212> DNA
<213> Rattus norvegicus

<400> 3
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cccgcagcca cgccccaacc caccctccgc cagctcacca agtggcccaa gggaggccag      60
gccgcaccct ctttccgccc ccgcaaaggc caggccgcac tcaccatgga cagatagacg     120
taggaggcat acaactccag gttgatctgg cggttgatgg cagcctccga gtcctggtgg     180
tagttctggc gcacttgcga gggagacgcg gtggtcatga tggcggctgg acgaggcgcg     240
gaggcgacgc tggagcggcg gagcgacgaa gttgcaaagg gctcaggctc aaagcggccg     300
gacggggggtc ggaggggtcg agcaccgggt tccgttcaag cactgttgaa gcaggaaacc     360
gcggcgactc tgggcgagaa cgtctggcgt agggaccagc gggccgcact ttatagcggg     420
atcctgcgtc aggcgcgctc cggccaatca gcgcggtggg ccgcccagcc ccgcctcttc     480
ctgtaggcgt gttgcccaag ccagcagtgc gtgggcgggg aggagcctgt gtgattgtga     540
ggcggctctt gggtctctga gct                                             563
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<210> 4
<211> 232
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (51)...(197)

<400> 4
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gcatctgcct tgctgtgggg atcaataaca aatacccttt ccactttcag tct tgt       56
                                                        Ser Cys
                                                        1

tat ttt gac cgg gat gat gtg gcc ctg aag aac ttt gcc aaa tac ttt     104
Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys Tyr Phe
        5                   10                  15

ctc cat caa tct cat gaa gag agg gaa cat gct gag aaa ctg atg aag     152
Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu Met Lys
    20                  25                  30

ctg cag aac cag cga ggt gga cga atc ttc ctg cag gat atc aag         197
Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile Lys
35                  40                  45

gtaagtagac tatgggactg cgttaaatga gcagt                              232
```

<210> 5
<211> 49
<212> PRT
<213> Rattus norvegicus

<400> 5
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Ser Cys Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys
1               5                   10                  15
Tyr Phe Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu
```

```
                20              25                30
Met Lys Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile
        35              40                45
Lys
```

<210> 6
<211> 232
<212> DNA
<213> Rattus norvegicus

<400> 6
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actgctcatt taacgcagtc ccatagtcta cttaccttga tatcctgcag gaagattcgt      60
ccacctcgct ggttctgcag cttcatcagt ttctcagcat gttccctctc ttcatgagat     120
tgatggagaa agtatttggc aaagttcttc agggccacat catcccggtc aaaataacaa     180
gactgaaagt ggaaagggta tttgttattg atccccacag caaggcagat gc            232
```

<210> 7
<211> 764
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (34)...(159)

<221> CDS
<222> (252)...(413)

<400> 7
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ctgcagatga attgacatgt ttctttgatt cag aaa cct gac cgt gat gac tgg       54
                                    Lys Pro Asp Arg Asp Asp Trp
                                     1               5

gag agc ggg ctg aat gca atg agg tgt gca ctg cac ttg gaa aag agt      102
Glu Ser Gly Leu Asn Ala Met Arg Cys Ala Leu His Leu Glu Lys Ser
            10              15                  20

gtg aat cag tca cta ctg gaa ctt cac aaa ctg gct act gac aag aat      150
Val Asn Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys Asn
     25              30                  35

gat ccc cac gtgagtatca gaaacacggg gtgagtggag atgatttgcc            199
Asp Pro His
 40

acagggcttg ggagagctga ccagtaaccc tgtcccatgt tctctttcct ag tta tgt     257
                                                        Leu Cys

gac ttc att gag acg cat tac ctg aat gag cag gtg aaa tcc att aaa      305
Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser Ile Lys
 45              50                  55                  60

gaa ctg ggt gac cac gtg acc aac tta cgc aag atg gga gcc cct gaa      353
Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala Pro Glu
                 65              70                  75

tct ggc atg gca gaa tat ctc ttt gac aag cac acc ctg gga cac ggt      401
Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly His Gly
             80              85                  90
```

```
gat gag agc taa gctgacgtcc ccaaggccat gtgactttac tggctcactg          453
Asp Glu Ser  *
            95


aggcagtgca tgcatgtcag gctgccttta tcttttctat aagttgcacc aaaacatctg    513
cttaaaagtt ctttaatttg taccatttct tcaaataaag aattttggta cccagctctt    573
gttgtgattg aggatgagcg caccagcttc ccttgcgtcg ctatataac cacactgcaa     633
cgcctgaaag aatatttatt aaactcgtag ttggggaaag atagtgaaag acaggtgtgt    693
tcagacagga ctaagcagtc ctggttctga gttacctgcc agactgccat gggaacatat    753
tcttgagtgt c                                                          764
```

```
<210> 8
<211> 42
<212> PRT
<213> Rattus norvegicus


<400> 8
Lys Pro Asp Arg Asp Asp Trp Glu Ser Gly Leu Asn Ala Met Arg Cys
 1               5                  10                  15
Ala Leu His Leu Glu Lys Ser Val Asn Gln Ser Leu Leu Glu Leu His
            20                  25                  30
Lys Leu Ala Thr Asp Lys Asn Asp Pro His
        35                  40


<210> 9
<211> 53
<212> PRT
<213> Rattus norvegicus


<400> 9
Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser
 1               5                  10                  15
Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala
            20                  25                  30
Pro Glu Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly
        35                  40                  45
His Gly Asp Glu Ser
        50


<210> 10
<211> 764
<212> DNA
<213> Rattus norvegicus


<400> 10
gacactcaag aatatgttcc catggcagtc tggcaggtaa ctcagaacca ggactgctta     60
gtcctgtctg aacacacctg tctttcacta tctttcccca actacgagtt aataaatat     120
tctttcaggc gttgcagtgt ggttatatag ccgacgcaag ggaagctggt gcgctcatcc    180
tcaatcacaa caagagctgg gtaccaaaat tctttatttg aagaaatggt acaaattaaa    240
gaactttaa gcagatgttt tggtgcaact tatagaaaag ataaaggcag cctgacatgc      300
atgcactgcc tcagtgagcc agtaaagtca catggccttg gggacgtcag cttagctctc    360
atcaccgtgt cccagggtgt gcttgtcaaa gagatattct gccatgccag attcaggggc    420
tcccatcttg cgtaagttgg tcacgtggtc acccagttct ttaatggatt tcacctgctc    480
attcaggtaa tgcgtctcaa tgaagtcaca taactaggaa agagaacatg ggacagggtt    540
actggtcagc tctcccaagc cctgtggcaa atcatctcca ctcaccccgt gtttctgata    600
ctcacgtggg gatcattctt gtcagtagcc agtttgtgaa gttccagtag tgactgattc    660
acactctttt ccaagtgcag tgcacacctc attgcattca gcccgctctc ccagtcatca    720
cggtcaggtt tctgaatcaa agaaacatgt caattcatct gcag                      764
```

```
<210> 11
```

<211> 2045
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<221> CDS
<222> (1132)...(1279)

<221> CDS
<222> (1495)...(1622)

<221> CDS
<222> (1715)...(1873)

<221> misc_feature
<222> (1)...(2045)
<223> n = A,T,C or G

<400> 11
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atctgtccat ggtgagtgcg gcctggcctt tggcggggcg gaaagagggt gcggcctggc     60
ctcccttggg ccacttggtg agctggcgga gggtgggttg gggcgtggcc tgctgcgggc    120
ttccccgcct tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc    180
aggcagccct gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag    240
gcacgtcata acacccgtgt tttgaagcct tagggctgta caactgtcag cctctccaat    300
caaccctgca gttaggtgca ttttcctgca ctctcgtccc ctccggtcac atggcctgca    360
ggcttctctg tttgggtgta catccagctc cagttcctct gactatggcg ggtctgcttg    420
gtcatggtgt ggaatggcag ccctggggct tggtacaaag aggcttatct cttgtgaact    480
tactctaacc acttctgaag cagcggcctc tacatctctg cttatcacag agcctcactt    540
gcattgaaac ttatcgctag gaatctcccc ttctgtaatc accctgacct tgccaaggca    600
tctagagtac tgtacgtttt taattttat tttgcaccag ttgttgctta ctaacagaag    660
tagtaggtaa catacttgtt ggaaaaagcc cacggttggg aaaaaaccat tatcgtggaa    720
tacaaataca ctgagtgcct aaaactgaaa atcaaagctt ctcccaatgt atttgtgcta    780
aaatacaatg ccctcagttc ttaaccaggt aatcagcagt tggctgtcta gctgaaaacc    840
ttgagacctt gtgttaacca ttttttttat ttaacatgat tgttgaagga gagaattgac    900
ctcccaatgt agggcacttt agcacccccc ctctcagaca aatagatatg gccttggctt    960
aaagtttttt ctctgcacta atgtggagcc atagaaccct tgataaagcc aagtcccaag   1020
tttgtttttcc catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat   1080
tgcatctgcc ttgctgtggg gatcaataac aaataccctt ccactttca g tct tgt       1137
                                                          Ser Cys
                                                            1
```

```
tat ttt gac cgg gat gat gtg gcc ctg aag aac ttt gcc aaa tac ttt      1185
Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys Tyr Phe
          5               10                  15
```

```
ctc cat caa tct cat gaa gag agg gaa cat gct gag aaa ctg atg aag      1233
Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu Met Lys
      20              25                  30
```

```
ctg cag aac cag cga ggt gga cga atc ttc ctg cag gat atc aag g        1279
Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile Lys
  35              40                  45
```

```
taagtagact atgggactgc gttaaatgag cagtnnnnnn nnnnnnnnnn nnnnnnnnnn   1339
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   1399
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   1459
nnnnctgcag atgaattgac atgtttcttt gattc ag aaa cct gac cgt gat gac   1514
                                         Lys Pro Asp Arg Asp Asp
                                          50                  55
```

```
tgg gag agc ggg ctg aat gca atg agg tgt gca ctg cac ttg gaa aag      1562
Trp Glu Ser Gly Leu Asn Ala Met Arg Cys Ala Leu His Leu Glu Lys
            60                      65                  70

agt gtg aat cag tca cta ctg gaa ctt cac aaa ctg gct act gac aag      1610
Ser Val Asn Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys
            75                      80                  85

aat gat ccc cac gtgagtatca gaaacacggg gtgagtggag atgatttgcc          1662
Asn Asp Pro His
        90


acagggcttg ggagagctga ccagtaaccc tgtcccatgt tctctttcct ag tta tgt    1720
                                                           Leu Cys


gac ttc att gag acg cat tac ctg aat gag cag gtg aaa tcc att aaa      1768
Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser Ile Lys
 95              100             105                 110

gaa ctg ggt gac cac gtg acc aac tta cgc aag atg gga gcc cct gaa      1816
Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala Pro Glu
                115             120                 125

tct ggc atg gca gaa tat ctc ttt gac aag cac acc ctg gga cac ggt      1864
Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly His Gly
            130             135                 140

gat gag agc taagctgacg tccccaaggc catgtgactt tactggtcac              1913
Asp Glu Ser
            145

tgaggcagtg catgcatgtc aggctgcctt tatcttttct ataagttgca ccaaaacatc    1973
tgcttaaaag ttctttaatt tgtaccattt cttcaaataa agaattttgg tacccagctc    2033
ttgttgtgat tg                                                        2045
```

```
<210> 12
<211> 49
<212> PRT
<213> Artificial Sequence

<220>
<223> Syntheticaly generated peptide

<400> 12
Ser Cys Tyr Phe Asp Arg Asp Asp Val Ala Leu Lys Asn Phe Ala Lys
 1               5                   10                  15
Tyr Phe Leu His Gln Ser His Glu Glu Arg Glu His Ala Glu Lys Leu
            20                  25                  30
Met Lys Leu Gln Asn Gln Arg Gly Gly Arg Ile Phe Leu Gln Asp Ile
        35                  40                  45
Lys


<210> 13
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
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<223> Syntheticaly generated peptide

<400> 13
Lys Pro Asp Arg Asp Asp Trp Glu Ser Gly Leu Asn Ala Met Arg Cys
1   5   10   15
Ala Leu His Leu Glu Lys Ser Val Asn Gln Ser Leu Leu Glu Leu His
            20   25   30
Lys Leu Ala Thr Asp Lys Asn Asp Pro His
        35   40

<210> 14
<211> 53
<212> PRT
<213> Artificial Sequence

<220>
<223> Syntheticaly generated peptide

<400> 14
Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys Ser
1   5   10   15
Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly Ala
            20   25   30
Pro Glu Ser Gly Met Ala Glu Tyr Leu Phe Asp Lys His Thr Leu Gly
        35   40   45
His Gly Asp Glu Ser
    50

<210> 15
<211> 1153
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 15
atctgtccat ggtgagtgcg gcctggcctt tggcggggcg gaaagagggt gcggcctggc   60
ctcccttggg ccacttggtg agctggcgga gggtgggttg gggcgtggcc tgctgcgggc   120
ttccccgcct tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc   180
aggcagccct gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag   240
gcacgtcata acacccgtgt tttgaagcct tagggctgta caactgtcag cctctccaat   300
caaccctgca gttaggtgca ttttcctgca ctctcgtccc ctccggtcac atggcctgca   360
ggcttctctg tttgggtgta catccagctc cagttcctct gactatggcg ggtctgcttg   420
gtcatggtgt ggaatggcag ccctggggct tggtacaaag aggcttatct cttgtgaact   480
tactctaacc acttctgaag cagcggcctc tacatctctg cttatcacag agcctcactt   540
gcattgaaac ttatcgctag gaatctcccc ttctgtaatc accctgacct tgccaaggca   600
tctagagtac tgtacgtttt taattttat tttgcaccag ttgttgctta ctaacagaag   660
tagtaggtaa catacttgtt ggaaaaagcc cacggttggg aaaaaaccat tatcgtggaa   720
tacaaataca ctgagtgcct aaaactgaaa atcaaagctt ctcccaatgt atttgtgcta   780
aaatacaatg ccctcagttc ttaaccaggt aatcagcagt tggctgtcta gctgaaaacc   840
ttgagacctt gtgttaacca ttttttttat ttaacatgat tgttgaagga gagaattgac   900
ctcccaatgt agggcacttt agcacccccc ctctcagaca aatagatatg gccttggctt   960
aaagtttttt ctctgcacta atgtggagcc atagaaccct tgataaagcc aagtcccaag   1020
tttgttttcc catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat   1080
tgcatctgcc ttgctgtggg gatcaataac aaatacccctt tccactttca gctgctagcg   1140
gccgcgctga cgt   1153

<210> 16
<211> 191
<212> DNA

<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 16
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actttcagct gctagcggcc gcgctgacgt ccccaaggcc atgtgacttt actggtcact      60
gaggcagtgc atgcatgtca ggctgccttt atcttttcta taagttgcac caaaacatct     120
gcttaaaagt tctttaattt gtaccatttc ttcaaataaa gaattttggt acccagctct     180
tgttgtgatt g                                                          191
```

<210> 17
<211> 1312
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 17
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ctcccttggg ccacttggtg agctggcgga gggtgggttg gggcgtggcc tgctgcgggc     120
ttccccgcct tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc     180
aggcagccct gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag     240
gcacgtcata acacccgtgt tttgaagcct tagggctgta caactgtcag cctctccaat     300
caaccctgca gttaggtgca ttttcctgca ctctcgtccc ctccggtcac atggcctgca     360
ggcttctctg tttgggtgta catccagctc cagttcctct gactatggcg ggtctgcttg     420
gtcatggtgt ggaatggcag ccctggggct tggtacaaag aggcttatct cttgtgaact     480
tactctaacc acttctgaag cagcggcctc tacatctctg cttatcacag agcctcactt     540
gcattgaaac ttatcgctag gaatctcccc ttctgtaatc accctgacct tgccaaggca     600
tctagagtac tgtacgtttt taatttttat tttgcaccag ttgttgctta ctaacagaag     660
tagtaggtaa catacttgtt ggaaaaagcc cacggttggg aaaaaaccat tatcgtggaa     720
tacaaataca ctgagtgcct aaaactgaaa atcaaagctt ctcccaatgt atttgtgcta     780
aaatacaatg ccctcagttc ttaaccaggt aatcagcagt tggctgtcta gctgaaaacc     840
ttgagacctt gtgttaacca ttttttttat ttaacatgat tgttgaagga gagaattgac     900
ctcccaatgt agggcacttt agcacccccc ctctcagaca aatagatatg gccttggctt     960
aaagtttttt ctctgcacta atgtggagcc atagaaccct tgataaagcc aagtcccaag    1020
tttgttttcc catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat    1080
tgcatctgcc ttgctgtggg gatcaataac aaatacccct tccatttaaa tctgctagcg    1140
gccgctgacg tccccaaggc catgtgactt tactggtcac tgaggcagtg catgcatgtc    1200
aggctgcctt tatcttttct ataagttgca ccaaaacatc tgcttaaaag ttctttaatt    1260
tgtaccattt cttcaaataa agaattttgg tacccagctc ttgttgtgat tg            1312
```

<210> 18
<211> 1532
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 18
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ggatcccgct ataaagtgcg gcccgctggt ccctacgcca gacgttctcg cccagagtcg      60
ccgcggtacc ggtgctcgac ccctccgacc cccgtccggc cgctttgagc ctgagccctt     120
tgcaacttcg tcgctccgcc gctccagcgt cgcctccgcg cctcgcccag ccgccatcat     180
ggtgagtgcg gcctggcctt tggcggggcg gaaagagggt gcggcctggc ctcccttggg     240
ccacttggtg agctggcgga gggtgggttg gggcgtggcc tgctgcgggc ttccccgcct     300
tccagcgccc ttctggaaaa tggagtttgt ccggggttct ttccaaaggc aggcagccct     360
gccgtggcaa gtctgagcac ctagcgcttt gtggctcctg catagaccag gcacgtcata     420
acacccgtgt tttgaagcct tagggctgta caactgtcag cctctccaat caaccctgca     480
gttaggtgca ttttcctgca ctctcgtccc ctccggtcac atggcctgca ggcttctctg     540
```

```
tttgggtgta catccagctc cagttcctct gactatggcg ggtctgcttg gtcatggtgt    600
ggaatggcag ccctggggct tggtacaaag aggcttatct cttgtgaact tactctaacc    660
acttctgaag cagcggcctc tacatctctg cttatcacag agcctcactt gcattgaaac    720
ttatcgctag gaatctcccc ttctgtaatc accctgacct tgccaaggca tctagagtac    780
tgtacgtttt taattttttat tttgcaccag ttgttgctta ctaacagaag tagtaggtaa    840
catacttgtt ggaaaaagcc cacggttggg aaaaaaccat tatcgtggaa tacaaataca    900
ctgagtgcct aaaactgaaa atcaaagctt ctcccaatgt atttgtgcta aaatacaatg    960
ccctcagttc ttaaccaggt aatcagcagt tggctgtcta gctgaaaacc ttgagacctt   1020
gtgttaacca tttttttttat ttaacatgat tgttgaagga gagaattgac ctcccaatgt   1080
agggcacttt agcacccccc ctctcagaca aatagatatg gccttggctt aaagttttt    1140
ctctgcacta atgtggagcc atagaaccct tgataaagcc aagtcccaag tttgtttttcc   1200
catccttact ttaaaggcca agtagggtga caaacagcct ttaccaccat tgcatctgcc   1260
ttgctgtggg gatcaataac aaataccctt tccatttaaa tctgctagcg gccgctgacg   1320
tccccaaggc catgtgactt tactggtcac tgaggcagtg catgcatgtc aggctgcctt   1380
tatctttttct ataagttgca ccaaaacatc tgcttaaaag ttctttaatt tgtaccattt   1440
cttcaaataa agaattttgg tacccagctc ttgttgtgat tgaggatgag cgcaccagct   1500
tcccttgcgt cggctatact aaccacactg ca                                 1532
```

<210> 19
<211> 139
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (13)...(126)

<400> 19

```
ccagccgcca tc atg acc acc gcg tct ccc tcg caa gtg cgc cag aac tac    51
             Met Thr Thr Ala Ser Pro Ser Gln Val Arg Gln Asn Tyr
              1               5                  10

cac cag gac tcg gag gct gcc atc aac cgc cag atc aac ctg gag ttg    99
His Gln Asp Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu
     15                  20                  25

tat gcc tcc tac gtc tat ctg tcc atg gtgagtgcgg cct                139
Tyr Ala Ser Tyr Val Tyr Leu Ser Met
 30                  35
```

<210> 20
<211> 38
<212> PRT
<213> Rattus norvegicus

<400> 20

```
Met Thr Thr Ala Ser Pro Ser Gln Val Arg Gln Asn Tyr His Gln Asp
 1               5                  10                  15
Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser
             20                  25                  30
Tyr Val Tyr Leu Ser Met
         35
```

<210> 21
<211> 139
<212> DNA
<213> Rattus norvegicus

<400> 21

```
aggccgcact caccatggac agatagacgt aggaggcata caactccagg ttgatctggc    60
```

```
ggttgatggc agcctccgag tcctggtggt agttctggcg cacttgcgag ggagacgcgg      120
tggtcatgat ggcggctgg                                                   139
```

<210> 22
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 22
```
ccagccgcca tcatggtgag tgcggcct                                          28
```

<210> 23
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 23
```
aggccgcact caccatgatg gcggctgg                                          28
```

<210> 24
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 24
```
cagagtcgcc gcggtttcct gcttcaacag tgcttgaacg gaacccggtg ctcgacccct      60
ccgaccccg tccggccgct ttgagcc                                           87
```

<210> 25
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector sequence

<400> 25
```
ggctcaaagc ggccggacgg gggtcggagg ggtcgagcac cgggttccgt tcaagcactg      60
ttgaagcagg aaaccgcggc gactctg                                          87
```

<210> 26
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 26
```
cagagtcgcc gcggtaccgg tgctcgaccc ctccgacccc cgtccggccg ctttgagcc       59
```

<210> 27

```
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 27
ggctcaaagc ggccggacgg gggtcggagg ggtcgagcac cggtaccgcg gcgactctg        59

<210> 28
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 28
actttcagct gctagcggcc gcgctgacgt ccccaaggcc at                           42

<210> 29
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
acgtcagcgc ggccgctagc agctgaaagt ggaaagggta t                            41

<210> 30
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 30
ctttccattt aaatctgcta gcggccgctg acgtc                                   35

<210> 31
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 31
tagcagattt aaatggaaag ggtatttgtt attgatc                                 37

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence
```

```
<400> 32
ctgtgagatc tgttcgaatg g                                           21

<210> 33
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
tgcagacact ctagacaagc ttaccagct                                   29

<210> 34
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<221> misc_feature
<222> (1)...(24)
<223> n = A,T,C or G

<400> 34
cagnnnnnnn nnnnnnnnnn nnnn                                         24

<210> 35
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 35
cagctgctgc tgctgctgct gctgggc                                      27

<210> 36
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<221> misc_feature
<222> (1)...(33)
<223> n = A,T,C or G

<400> 36
nnnngcggcc gcnnnnnnnn nnnnnnnnnn nnn                               33

<210> 37
<211> 36
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Primer

<400> 37
ttttgcggcc gcagctcatg tctgctcgaa gcggcc   36

<210> 38
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated oligonucleotide

<221> misc_feature
<222> (1)...(41)
<223> n = A,T,C or G

<400> 38
ccatttcagn nnnnnnnnnn nnnnnnngcg gccgctgacg t   41

<210> 39
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Example for SEAP

<400> 39
ccatttcagc tgctgctgca gacatgagcg gccgctgacg t   41

<210> 40
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 40
aacggttgac gtctgtggtc gac   23

<210> 41
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Polylinker sequence

<400> 41
gtcgaccaca gacgtcaacc gtt   23